

Claims

1. An electrosurgical apparatus, comprising:
  - an HF generator having a first operating state, a second operating state and at least one third operating state;
  - an HF instrument having a first switch assigned to said first operating state, a second switch assigned to said second operating state, and at least one third switch assigned to said at least one third operating state;
  - at least one control signal line, said first, second and at least one third switches being connected to said HF generator via said at least one control signal line, said first, second and at least one third switches generate a first, a second or at least one third control output signal which differ from one another, from a control input signal as a function of a switching state of said first, second and said at least one third switches, in order to optionally activate one of said first, second and at least one third operating states of said HF generator, said first, second and at least one third control output signals being fed to said HF generator via said at least one control signal line only.

2. The apparatus of claim 1, wherein said third switch connects a main line that is connected to said HF generator directly to said at least one control signal line in order to generate said third control output signal.

3. The apparatus of claim 1, wherein a first signal coder is assigned to said first switch and a second signal coder is assigned to said second switch, wherein said first and second signal coders are also assigned to said at least one third switch.

4. The apparatus of claim 3, wherein said at least one third switch is connected to said first switch and said second switch in such a way that a closed state of said at least one third state corresponds to a simultaneous closed state of said first and second switches.

5. The apparatus of claim 1, wherein said at least one third switch is connected electrically in parallel with said first and second switches.

6. The apparatus of claim 1, wherein said at least one third switch is coupled mechanically to said first and second switches in such a way that, upon actuation of said at least one third switch, said first and second switches are simultaneously closed.

7. The apparatus of claim 1, wherein a first signal coder is assigned to said first switch and a second signal coder is assigned to said second switch, and wherein a third

signal coder differing from said first and second signal coders is assigned to said at least one third switch.

8. The apparatus of claim 7, wherein said third signal coder assigned to said at least one third switch corresponds to a parallel connection of said first and second signal coders assigned to said first and second switches.

9. The apparatus of claim 1, wherein a first signal coder is assigned to said first switch and a second signal coder is assigned to said second switch, and wherein a third signal coder differing from said first and second signal coders is assigned to said at least one third switch, and wherein said third signal coder has other coding properties than said first and second signal coders.

10. The apparatus of claim 1, wherein a first signal coder is assigned to said first switch and a second signal coder is assigned to said second switch, wherein said first signal coder has a first diode and said second signal coder has a second diode, said first and second diodes being connected to said at least one control signal line with reversed polarity.

11. The apparatus of claim 1, wherein a signal coder is assigned to at least one of said first, second and third switches, and said signal coder has at least one Zener diode.

12. An electrosurgical apparatus, comprising:

- an HF generator having a first operating state, a second operating state and at least one third operating state;
- an HF instrument having a first switch assigned to said first operating state, a second switch assigned to said second operating state, and at least one third switch assigned to said at least one third operating state;
- at least one control signal line, said first, second and at least one third switches being connected to said HF generator via said at least one control signal line;
- a first signal coder assigned to said first switch, a second signal coder assigned to said second switch, wherein said first signal coder and said second signal coder are also assigned to said at least one third switch;
- said first, second and at least one third switches generate a first, a second or at least one third control output signal which differ from one another, from a control input signal as a function of a switching state of said first, second and said at least one third switches, in order to optionally activate one of said first, second and at least one third operating states of said HF generator, said first, second and at least one third control output

signals being fed to said HF generator via said at least one control signal line only.

13. The apparatus of claim 12, wherein said at least one third switch is connected to said first switch and said second switch in such a way that a closed state of said at least one third state corresponds to a simultaneous closed state of said first and second switches.

14. The apparatus of claim 12, wherein said at least one third switch is connected electrically in parallel with said first and second switches.

15. An electrosurgical apparatus, comprising:

- an HF generator having a first operating state, a second operating state and at least one third operating state;
- an HF instrument having a first switch assigned to said first operating state, a second switch assigned to said second operating state, and at least one third switch assigned to said at least one third operating state;
- at least one control signal line, said first, second and at least one third switches being connected to said HF generator via said at least one control signal line;

- a first signal coder assigned to said first switch, a second signal coder assigned to said second switch, a third signal coder assigned to said at least one third switch is differing from said first and second signal coder;
- said first, second and at least one third switches generate a first, a second or at least one third control output signal which differ from one another, from a control input signal as a function of a switching state of said first, second and said at least one third switches, in order to optionally actuate one of said first, second and at least one third operating states of said HF generator, said first, second and at least one third control output signals being fed to said HF generator via said at least one control signal line only.

16. The apparatus of claim 15, wherein said third signal coder assigned to said at least one third switch corresponds to a parallel connection of said first and second signal coders assigned to said first and second switches.

17. The apparatus of claim 15, wherein said third signal coder assigned to said at least one third switch has other coding properties than said first and second signal coders assigned to said first and second switches.